UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,454	06/20/2001	Stepan Sokolov	SUN1P831/P6164	5755

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BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

EXAMINER
RAMPURIA, SATISH

ART UNIT	PAPER NUMBER
2124	4

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application N●	Applicant(s)
Office Action Summary	09/886,454	SOKOLOV ET AL.
	Examiner	**Art Unit**
	Satish S. Rampuria	2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>03</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08/07/2003*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 03

DETAILED ACTION

1.   This action is in response to the application filed on 06/20/2001.

2.   Claims 1-20 are pending.

Specification

3.   The use of the trademark "Java" has been noted in this application. It should be

appropriate or proper term (see MPEP 608.01(v)) used, wherever it appears and be

accompanied by the generic terminology. Although the use of trademarks is permissible

in patent applications, the proprietary nature of the marks should be respected and every

effort made to prevent their use in any manner which might adversely affect their validity

as trademarks.

Appropriate correction is required.

Information Disclosure Statement

4.   An initialed and dated copy of Applicant's IDS form 1449, Paper No. 02 and 04 is

attached to the instant Office action.

Drawings

5.   Figure 1 (A and B) should be designated by a legend such as --Prior Art-- because only

that which is old is illustrated. See MPEP § 608.02(g).

A proposed drawing correction or corrected drawings are required in reply to the Office

action to avoid abandonment of the application. The objection to the drawings will not be held

in abeyance.

Claim objections

6.   Claim 2, 5, 12, and 19 are objected to because of the following informalities:

Regarding claim 2, on line 15, after the word "reference" missing ";".

Regarding claim 5, on line 27, after the word "size" missing ";".

Regarding claim 12, on line 9, after the word "size" missing ";".

Regarding claim 19, on line 22, after the word "reference" missing ";".

Appropriate correction is required.

Claim Rejections - 35 USC § 112, second paragraph

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite, the trademark or trade name can not be used to identify any particular material or product.

Claims 1-20 contain the trademark/trade name Java. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See Ex parte Simpson, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United
States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the
United States before the invention by the applicant for patent, except that an international application filed under the treaty
defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if
the international application designated the United States and was published under Article 21(2) of such treaty in the English
language.

9.   Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No.

6,151,703 to Crelier, hereinafter called Crelier.

Per claim 1:

Crelier discloses:

-     In a Java computing environment, a Java object representation suitable for use by a Java

virtual machine, said a Java object representation (col. 3, lines 44-45 "a virtual machine for

executing programs written in the Java programming language")

-     a first reference to an internal class representation of said Java object (col. 8, lines 16-17

"the object handle 401 includes a pointer referencing a method table or virtual table ("v

table")")

-     a second reference to instance fields associated with said Java object (col. 8, lines 21-22

"the method table 420 includes a pointer 421 pointing to a ClassClass descriptor 430")

-     wherein said first reference is a direct reference to said internal class representation of said

Java object (col. 8, lines 62-64 "The method table 420 includes a pointer 423 to the method

block for the class (or superclass, if this in an inherited class)")

Per claim 2:

The rejection of claim 1 is incorporated, and further, Crelier disclose:

- wherein said second reference is a reference to an array of references (col. 8, lines 13-14 "objects are maintained in a global array for facilitating object processing")

- wherein each refernce in said array of references is a reference to an instance field associated with said Java object (col. 8, lines 19-20 "The method table 420, in turn, includes a list of methods for the objects of the class")

Per claims 3 and 4:

The rejection of claim 1 is incorporated, and further, Crelier disclose:

- wherein said first refernce is allocated as four bytes (col. 10, lines 62-64 "The third slot stores a pointer (e.g., 32-bit address pointer) to compiled code, *CompiledCode, which corresponds to the compiled code slot 463"). 8 bit equal to 1 byte, therefore, 32 bit equal to 4 bytes.

Per claims 6 and 7:

The rejection of claim 1 is incorporated, and further, Crelier disclose:

- a hash key that can be used to identify the Java object (col. 8, lines 42-43 "unsigned long thishash; unsigned long totalhash")

Claim 8 is the method claim corresponding to system claim 1 and rejected under the same rational set forth in connection with the rejection of claim 1 above.

Claim 9 is the method claim corresponding to system claim 2 and rejected under the same

rational set forth in connection with the rejection of claim 2 above.

Claim 10 is the method claim corresponding to system claim 3 and rejected under the same

rational set forth in connection with the rejection of claim 3 above.

Claim 11 is the method claim corresponding to system claim 4 and rejected under the same

rational set forth in connection with the rejection of claim 4 above.

Claim 13 is the method claim corresponding to system claim 6 and rejected under the same

rational set forth in connection with the rejection of claim 6 above.

Claim 14 is the method claim corresponding to system claim 7 and rejected under the same

rational set forth in connection with the rejection of claim 7 above.

Claim 20 is the computer program product claim corresponding to system claim 6 and rejected

under the same rational set forth in connection with the rejection of claim 6 above.

Per claim 15:

Crelier discloses:

- a method for accessing information regarding a Java object (col. 3, lines 44-45 "a virtual

   machine for executing programs written in the Java programming language")

- identifying an object representation associated with said Java object (col. 3, lines 50-52

   "The program comprises objects created from Java classes; each class defines data and

   methods for the class")

- using a first reference in said object representation to locate an appropriate internal class

  representation associated with said Java object (col. 8, lines 16-17 "the object handle 401

  includes a pointer referencing a method table or virtual table ("v table")")

- accessing information regarding said Java object from said internal class representation

  (col. 6, lines 29-32 "class will access other classes for invoking their methods, the bytecode

  verifier must confirms that appropriate access is in place")

- wherein said object is represented in a Java virtual machine (col. 7, lines 62-63 "Java

  application is executed, the virtual machine 220 loads one or more class files")

Per claim 16:

The rejection of claim 15 is incorporated, and further, Crelier discloses:

- skipping a header of said internal class representation to access a method table associated

  with said Java object (col. 8, lines 62-64 "The method table 420 includes a pointer 423 to

  the method block for the class (or superclass, if this in an inherited class)")

Per claim 17:

The rejection of claim 15 is incorporated, and further, Crelier discloses:

- wherein said information regarding said Java object includes a field descriptor table (col. 8,

  lines 21-22 "the method table 420 includes a pointer 421 pointing to a ClassClass descriptor

  430")

Claim 18 is the computer program product claim corresponding to system claim 1 and rejected

under the same rational set forth in connection with the rejection of claim 1 above.

Claim 19 is the computer program product claim corresponding to system claim 2 and rejected

under the same rational set forth in connection with the rejection of claim 2 above.

Substantially as claimed.

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this
title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a
whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said
subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crelier in view of

US Patent No. 6,237,043 to Brown et al., hereinafter called Brown.

Per claim 5:

The rejection of claim 1 is incorporated, and further, Crelier disclose:

- wherein a method table associated with said Java object is allocated immediately after said

header (col. 10, lines 62-64 "The method table 420 includes a pointer 423 to the method

block for the class (or superclass, if this in an inherited class)")

Crelier does not explicitly disclose internal class representation includes a header of a

predetermined size.

However, Brown, in an analogous computer system discloses internal class representation includes a header of a predetermined size (col. 3, lines 58-61 "an object by defining a memory area within the object's header... contains the locking mechanism or a pointer to a locking mechanism" and col. 4, lines 12-13 "allocate additional header memory area... object is created").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of including header with memory allocated area within the object as taught by Brown onto the method of executing Java programming code as taught by Crelier. The modification would be obvious because of one of ordinary skill in the art would be motivated to predetermine the header size to not to overhead the memory as suggested by Brown (col. 3, lines 35-48).

Claim 12 is the method claim corresponding to system claim 5 and rejected under the same rational set forth in connection with the rejection of claim 5 above.

Conclusion

12.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patent is cited to further show the state of the art with respect to Java™ programming environment.

US Patent No. 5,920,720 to Toutonghi et al.

US Patent No. 6,530,080 to Fresko et al.

US Patent No. 6,330,709 to Johnson et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satish S. Rampuria whose telephone number is 703-305-8891. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria
Patent Examiner
Art Unit 2124
05/ 17/2004

TODD INGBERG
PRIMARY EXAMINER